

United States Patent [19]
Brodie et al.

US005980620A

[11] **Patent Number:** 5,980,620
[45] **Date of Patent:** Nov. 9, 1999

[54] INHIBITION OF BACTERIAL GROWTH

[76] **Inventors:** Harold Brodie, Highfield, Histon Hill,
Codsall, Staffordshire WV8 2ER;
Rainer Clover, 418a Sutton Road,
Walsall, West Midlands WS5 3BA, both
of United Kingdom

[21] **Appl. No.:** 09/201,287
[22] **Filed:** Nov. 30, 1998

Related U.S. Application Data

[63] **Continuation of application No. PCT/GB96/01374, Jun. 5, 1996, abandoned.**
[51] **Int. Cl.⁶** A01N 25/12; A01N 25/10
[52] **U.S. Cl.** 106/15.05; 106/18.32;
106/18.35; 424/405; 424/409; 424/419;
523/122; 514/360; 514/398; 514/588; 514/596;
514/721
[58] **Field of Search** 106/15.05. 18.32.
106/18.35; 523/122; 424/405. 409. 419;
514/360. 398. 588. 596

[56] References Cited

U.S. PATENT DOCUMENTS

| | | | |
|-----------|---------|----------------|----------|
| 3,817,761 | 6/1974 | Brake | 106/15 |
| 3,817,762 | 6/1974 | Brake | 106/15 |
| 3,988,294 | 10/1976 | Hill | 260/45.8 |
| 4,629,645 | 12/1986 | Inoue | 428/141 |
| 4,663,364 | 5/1987 | Iwasaki et al. | 523/122 |
| 4,851,421 | 7/1989 | Iwasaki et al. | 514/352 |
| 5,053,444 | 10/1991 | Trotoir | 523/351 |
| 5,238,749 | 8/1993 | Coeman et al. | 428/441 |

FOREIGN PATENT DOCUMENTS

2409250 6/1979 France
2657085 7/1991 France
WO 91/08268 6/1991 WIPO

OTHER PUBLICATIONS

Japanese Patent Abstract No. JP408060036A, abstract of Japanese Patent Specification No. 08-060036, Mar. 1996.
WPIDS Abstract No. 94-072114, abstract of Japanese Patent Specification No. 06-025561, Feb. 1994.
WPIDS Abstract No. 94-106899, abstract of Japanese Patent Specification No. 06-057032, Mar. 1994.
Patent Abstract of Japan, vol. 96, No. 7 & JP 08060036 (see Abstract) (Mar. 1996).
Database WPI, Section Ch. Week 9409, Derwent Publications, Ltd., AN 94-072114, XP002024460 & JP 06025561 (see Abstract) Feb. 1994.
Database WPI, Section Ch. Week 9413, Derwent Publications, Ltd., AN94-106899, XP002024461 & JP 06057032 (See abstract) Mar. 1994).

Primary Examiner—Anthony Green
Attorney, Agent, or Firm—Caesar, Rivise, Bernstein, Cohen & Pokotilow, Ltd.

[57] ABSTRACT

The invention provides a means of inhibiting bacterial growth particularly on a coated substrate. It comprises a method of forming a substantially dry powder coating containing a biocide, applying the powder coating composition to form a coating on the substrate, the biocide being capable of retaining effective biocidal activity in the coating.

11 Claims, No Drawings